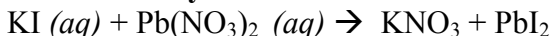


LAW OF CONSERVATION OF MASS LAB

The reaction you will see in this lab is:



The symbol (aq) means that the chemical is dissolved in water, as a solution (*aqueous*).

Objective: To prove the Law of Conservation of Mass using your quantitative data.
To give evidence of a chemical reaction using your qualitative data.

Materials:

2 beakers of any size	Pb(NO ₃) ₂ (lead nitrate)
2 glass stirring rods	KI (potassium iodide)
Distilled water	

Procedure:

1. Thoroughly clean and dry 2 beakers of any size.
2. Measure the masses of both beakers and record them in your data table.
3. Tare the mass of one beaker, then weigh 0.50 g of KI into that beaker. Record the exact mass in a data table and label the beaker "KI".
4. Tare the mass of the other beaker, then weigh 0.50 g of Pb(NO₃)₂ into that beaker. Record the exact mass and label this beaker "Pb(NO₃)₂".
5. To each beaker, add 50.0 ml of distilled water and stir with a clean stir rod until all the solid has dissolved.
6. In your qualitative data table, record the appearance of reactant 1 and reactant 2 in the beakers.
7. Weigh each beaker to the nearest 0.01 g and record in your quantitative data table.
8. Pour the contents of one beaker into the other. It does not matter which gets poured into the other.
9. In your qualitative data table, record the appearance of the products in the beaker. You may want to let the substance sit for a little and then hold it up to the light.
10. Weigh this final substance and record in your quantitative data table.

Qualitative data:

substance	appearance
Reactant 1: KI (potassium iodide)	
Reactant 2: Pb(NO₃)₂ (lead nitrate)	
Products: KNO₃ + PbI₂ (potassium nitrate + lead iodide)	

Quantitative data:		
Substance being massed:	Mass (g):	Reactant or product?
Mass of beaker 1:		XXXXX
Mass of beaker 2		XXXXX
Mass of KI:		Reactant 1
Mass of Pb(NO ₃) ₂		Reactant 2
Mass of KI + H ₂ O + beaker		Reactant 1 + H ₂ O + beaker
Mass of KI + H ₂ O		Reactant 1 + H ₂ O
Mass of Pb(NO ₃) ₂ + H ₂ O + beaker		Reactant 2 + H ₂ O + beaker
Mass of Pb(NO ₃) ₂ + H ₂ O		Reactant 2 + H ₂ O
Mass of KNO ₃ , PbI ₂ + H ₂ O + beaker		Products + H ₂ O + beaker
Mass of KNO ₃ , PbI ₂ + H ₂ O		Products + H ₂ O

Analysis and Conclusions:

- Using your data above, show that:
 (mass of reactants + H₂O) = (mass of products + H₂O).
 NOTE: your values may differ slightly, which is normal for a lab situation.
- What may have caused your values above to differ?
- What are 2 observations you made, of your product, that shows a chemical reaction took place?
- Both reactants were aqueous (*aq*). However, one of the products was a solid (*s*), while the other was still dissolved in water. Lead iodide is a solid additive once used in paint. Write the chemical reaction below, this time adding the symbols (*aq*) and (*s*) behind the correct product formulas.

